US-PAT-NO: 5917959

DOCUMENT-IDENTIFIER: US 5917959 A

TITLE: Image processing device for modifying tone characteristics of image data

DATE-ISSUED: June 29, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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APPL-NO: 08/ 925082

DATE FILED: September 8, 1997

PARENT-CASE:

This application is a divisional of application Ser. No. 08/667,931, filed on Jun. 24, 1996, now U.S. Pat. No. 5,329,636, which is a divisional of application Ser. No. 08/600,204, filed on Feb. 12, 1996, now U.S. Pat. No. 5,588,050, which is a divisional of Ser. No. 08/292,012 filed Aug. 18, 1994, now abandoned, the entire contents of which are hereby incorporated by reference.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-212781	August 27, 1993
JP	5-260943	October 19, 1993
JP	6-129003	June 10, 1994

US-CL-CURRENT: 382/276

ABSTRACT:

The image processing device converts input image data into converted data.
A two way buffer in the image processing device stores reference data generated
by a converted data generator under the direction of a controller. The two way
buffer is then used to generate converted data in response to received image
data. Also, depending upon the input device connected to the image processing
device, a selector selects one of a plurality of processing characteristics.
The selected processing characteristics are used to vary and set a conversion
function for converting the image data to produce the converted data.

2 Claims, 96 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 62

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Brief Summary Text - BSTX (21):

In the matrix calculation of the formula (28), the image data in which achromatic components and color components are both contained is directly used, so that interference occurs in the calculation. That is, changing the **color conversion** coefficients (**matrix** operator) with respect to one of the components or **hues** also affects other components or **hues**. It was therefore difficult to compensate the degradation in the picture quality due to the color-impurity of the inks and to achieve a good **conversion characteristic**.

Brief Summary Text - BSTX (33):

Similarly, in the prior art **color conversion** using the **matrix** calculation, compensation (retouching) cannot be performed independently for each **hue**. As a result, calculation interference occurs between different hues. It is therefore difficult to properly set **color conversion** coefficients, and to realize satisfactory **conversion characteristics for all colors**.

Brief Summary Text - BSTX (39):

A further object of the invention is to provide an image processing method and device for performing, for each pixel, **color conversion** on the red, green and blue image data R, G and B, into cyan, magenta and yellow printing data C, M and Y, with or without black data, with which it

is possible to compensate (retouch) each of the six **hue** regions (of the image data R, G and B, and the printing data C, M and Y) independently, and of which the **conversion characteristic** realized by means of the **matrix** calculation can be altered flexibly, and the capacity of the memory need not be increased substantially.